

[ON-CHIP INDUCTOR WITH MAGNETIC CORE]

Abstract

An inductor formed on an integrated circuit chip including one or more inner layers (12) between two or more outer layers (14), inductor metal winding turns (16) included in one or more inner layers (12), and a magnetic material forming the two or more outer layers (14) and the one or more inner layers (12). In one embodiment, the magnetic material is a photoresist paste having magnetic particles. In another embodiment, the magnetic material is a series of magnetic metallic strips (32 and 36) disposed on each of the first and second portions (30 and 34, respectively) of the two or more outer layers (14) and on each of the one or more inner layers (12). The series of magnetic metallic strips on the first and second portions (30, 34) form a grid pattern. Other embodiments include an adjustable controlled compound deposit and control windings with adjustable electrical currents.